

C O U N C I L C O M M U N I C A T I O N

TO : THE CITY COUNCIL
FROM: THE CITY MANAGERS OFFICE

COUNCIL MEETING DATE
May 3, 1989

SUBJECT: APPROVE ADDITIONAL STAFF REQUIRED FOR WHITE SLOUGH WATER POLLUTION
CONTROL FACILITY

PREPARED BY: Assistant City Manager

RECOMMENDED ACTION: That the City Council authorize the following additional positions and hiring schedule needed for the operation of the White Slough Water Pollution Control Facility (WSWPCF) expansion project scheduled to be operational February 1991:

Number	Position	Hiring Date
1	Plant & Equipment Mechanic	May 1989
1	Electrician	August 1989
1	Maintenance Worker	January 1991
1	Water/Wastewater Inspector	July 1990
1	Wastewater Plant Operator I	April 1990
*	Wastewater Plant Operator I	*
1	Administrative Clerk II (Part-Time)	January 1991

* To be determined after plant is operational

BACKGROUND INFORMATION: In early 1988, Black & Veatch Engineers (B&V) prepared a report evaluating the City's current staffing requirements and future staffing requirements for the completion of the WSWPCF expansion project.

After a thorough evaluation of the current condition of our facilities (less electrical system), a review of the Environmental Protection Agency's (EPA) recommended staffing requirements, and B&V's experience with treatment facilities around the United States, B&V submitted the attached memo dated May 10, 1988.

A separate in-depth evaluation by B&V of the WSWPCF electrical and instrumentation systems has resulted in the recommendation in the attached letter dated November 23, 1988.

The following is a discussion of the needs and recommendations in the areas of Facility Maintenance, Laboratory Services, Facility Operation, and Clerical.

FACILITY MAINTENANCE

Plant & Equipment Mechanic and Maintenance Worker - B&V, in its May 10, 1988 memorandum (Exhibit B), indicated that the existing plant maintenance staff was deficient by one Maintenance Worker and recommended that the Maintenance Worker position be added immediately. B&V also recommended that an additional Plant & Equipment Mechanic be added at the time that the plant expansion is completed.

We feel strongly that it is in the City's best interest to hire the Plant & Equipment Mechanic now and defer the Maintenance Worker position until January of 1991. It is felt that the Plant & Equipment Mechanic should be on board during all plant construction and that if the position is filled now, the person filling the position can be trained simultaneously with the existing Plant & Equipment Mechanic who just filled a current vacancy. There is presently a hiring eligibility list for Plant & Equipment Mechanic, so this position could be filled immediately.

It is recommended that the upgrade of a Plant & Equipment Mechanic to a Senior Plant & Equipment Mechanic proposed by B&V be re-evaluated after the plant becomes operational and all preventive maintenance programs are implemented. If there is a need for this type an upgrade, it will be brought back to the City Council during the latter part of 1991.

Electrician - B&V's letter of November 23, 1988 (Exhibit C) describes the deficiencies of our past electrical and instrumentation maintenance procedures.

Instrumentation repair and maintenance was previously contracted for with private instrumentation contractors. The cost to the City for this work ranged from \$8,000 to \$15,000 per year. We feel that the City has not gotten their money's worth under these prior contracts and often we experienced a s/ow response time to critical emergencies. This could have caused the City to violate our Federal and State NPDES permit, thereby subjecting the City to a potential \$6,000 per day fine.

The electrical repair is currently provided by the City's Electric Utility Department. Electrical repairs in emergencies have always been done in a timely manner; however, the Electric Utility Department, due to other commitments and priorities, has not been able to provide preventive maintenance to our plant's electrical system. The lack of a preventive maintenance program is, in part, responsible for a good portion of the \$1M worth of electrical work required as part of the plant expansion.

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Presently, the Electric Utility Department has a staff of two Electricians, one Electrical Technician and one Senior Electrical Technician (Supervisor). The Public Works Department is allocated 1.3 electrician man-years for maintenance and repair plus additional time for capital work. This maintenance and repair includes work on water wells and related water system equipment, wastewater and storm pumping stations, traffic signals, cathodic protection systems, electrical equipment on City buildings, together with repair work at the existing WSWPCF. B&V, in its letter of November 23, 1988, recommends that an Electrician be stationed at the WSWPCF full time. This concept was discussed with the Electric Utility Department. The Electric Utility Department agreed that there would be a full man-year's worth of electrical work at the expanded plant **if** an appropriate preventive maintenance program was to be implemented. It was determined that with an additional Electrician, the Electric Utility Department would reorganize their Electrical System Division to provide two Technicians that specialize in substation, SCADA, and general electric utility functions and two Electricians that would specialize in the Public Works area. Both groups of technical staff would be supervised by the Senior Electrical Technician. In addition, the Technicians would be cross-trained to provide emergency back-up assistance on Public Works facilities.

It is recommended that the Electrician **be** hired in August 1989. This would allow the **new** Electrician to also become acquainted with the existing equipment and both Public Works Electricians would be present to inspect and evaluate the contractor's electrical installations which will ultimately **be** maintained and repaired by them.

Upon the completion of the City's upcoming expansion of WSWPCF, the City will have nearly a \$30M investment that we cannot neglect and we must provide a good preventive maintenance program.

LABORATORY SERVICES

Water/Wastewater Inspector - B&V's memo of May 10, 1988 states that our current staff of four in the WSWPCF laboratory should be adequate until the summer of 1990, at which time a second Water/Wastewater Inspector will be required.

In June of 1988, the City's industrial pretreatment program underwent an audit by the EPA and the California Regional Water Quality Control Board (CRWQCS). The audit findings (received in February of 1989) pointed out many inadequacies in our present program, which were mainly due to lack of staff time. This is due in part to the numerous promulgated regulations since our initial program was established several years ago. The EPA and the CRWQCB audit findings listed as one of the required actions, "The City must increase the staff time allowed to properly implement the pretreatment program."

FACILITY OPERATION

Wastewater Plant Operator I - In B&V's memo of May 10, 1988, it is recommended that three additional Wastewater Plant Operators be added to the present staff. The recommendation is that one be added mid-year 1989 and the other two in spring/summer 1990. The Public Works Department feels that one Operator should be brought on board in April 1990 in order to become familiar with the plant operation as the final construction is being completed. It is recommended that the other two Operator positions recommended by B&V be re-evaluated once the plant is operational and running smoothly. There are a number of new systems being installed that will simplify the plant operation, however, there are also a number of new facilities like the co-generation facility where staff does not know the operational requirements. For the time being, our staff feels they should be able to operate the expanded plant with less Operators than recommended. However, once the plant is on-line and we know the total operational requirements, it may be necessary to bring back to the City Council a request for additional Operators.

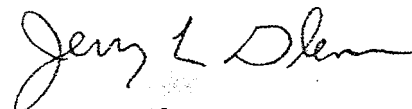
Chief Operator - In B&V's memo of May 10, 1988, a position of Chief Operator is recommended. This is not a new position. This position upgrade was previously approved by the City Council in the 1988/89 Operating Budget. Recruitment for this position is scheduled and will commence in the near future.

CLERICAL

Administrative Clerk II (Part-Time) - In B&V's memo of May 10, 1988, it is recommended that a full-time clerical position be added with the plant expansion. The Public Works Department recommends that this position be approved as a part-time position. It is recommended that this position be filled at the time the plant becomes operational (January 1991) and that this position initially be funded for six man-months.

The attached organization chart (Exhibit A) shows the existing staffing and the proposed additional staffing recommended above.

Respectfully submitted,



Jerry L. Glenn
Assistant City Manager

JLG:br

Attachments

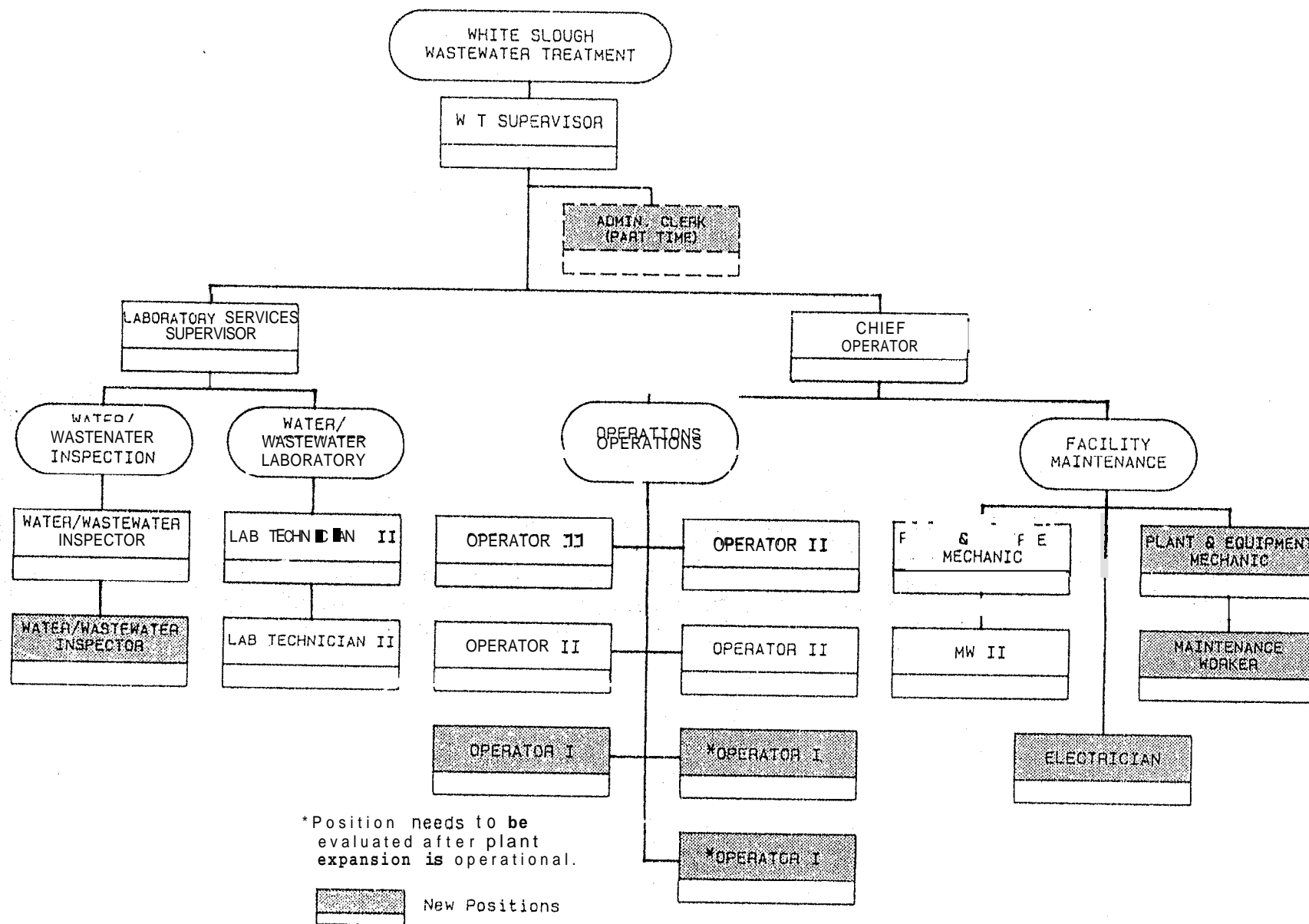


EXHIBIT A

MEMORANDUM

Lodi, California
WSWPCF Expansion
Treatment Plant Staffing Study

B&V Project 13772.160
April 8, 1988
Rev. May 10, 1988

To: Jack Ronsko
Fran Forkas
Dei Kerlin

From: Randy Fiorucci

The purposes of this memorandum are to (1) analyze the current staffing requirements of the White Slough Water Pollution Control Facility and (2) provide recommendations for increasing the plant staff to manage both current operations and future needs due to the upcoming treatment plant expansion.

The current plant staffing levels were compared to EPA guidelines and current and future needs. Discussions on staffing were also held with the plant staff and the water/wastewater superintendent. The Environmental Protection Agency's "Estimating Staffing for Municipal Wastewater Treatment Facilities" Manual MO-1 (March 1973) was used to estimate present and future manpower needs. The manual utilizes a series of nomographs for various treatment plant processes and functions to determine staffing levels. The manual assists in determining general manpower requirements for supervisory, clerical, operations, maintenance, and laboratory personnel. It does not address further division of responsibilities within each employment category.

A summary of manpower estimates utilizing EPA guidelines for the existing and expanded plant is presented in Table 1. The staffing requirements for sludge related operations (anaerobic digestion, sludge thickening, and sludge lagoons) for the expanded plant are based on an ultimate plant capacity of 10.8 mgd to be consistent with the intent of the upcoming plant expansion.

EPA guideline estimates tend to underestimate laboratory manpower needs due to increased requirements of discharge permits, pretreatment programs, industrial waste analysis for billing, and other regulatory programs. These new regulatory programs also dictate the need for an inspector position to deal with industries and perform other duties. These needs are not addressed in the EPA guidelines.

MEMORANDUM

City of Lodi
Messrs. Ronsko, Forkas, Kerlin

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B&V Project 13772,160
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TABLE 1. SUMMARY OF MANPOWER ESTIMATES FOR THE WHITE SLOUGH WATER POLLUTION CONTROL FACILITY (Man-Hours per year)

<u>Item</u>	<u>Existing Plant 6.2 MGD</u>	<u>Expanded Plant 8.5 MGD</u>
Supervisory and Administration	1,750	2,150
Clerical/Word Processing	490	700
Laboratory	3,150	3,590
Yardwork/Custodial	400	490
Raw Sewage Pumping	430	450
Screening and Grinding	580	890
Grit Removal	600	700
Primary Clarification	1,770	2,380
Aeration	2,600	3,050
Secondary Clarification	1,560	2,100
Chlorination	630	700
Anaerobic Digestion	810	1,190
Sludge Thickening	1,775	2,400
Sludge Lagoons	130	140
Stabilization Ponds	200	200
Aerated Lagoons	780	780
Cogeneration Facilities	--	<u>3,663</u>
Total Annual Man-Hours	17,650	25,390

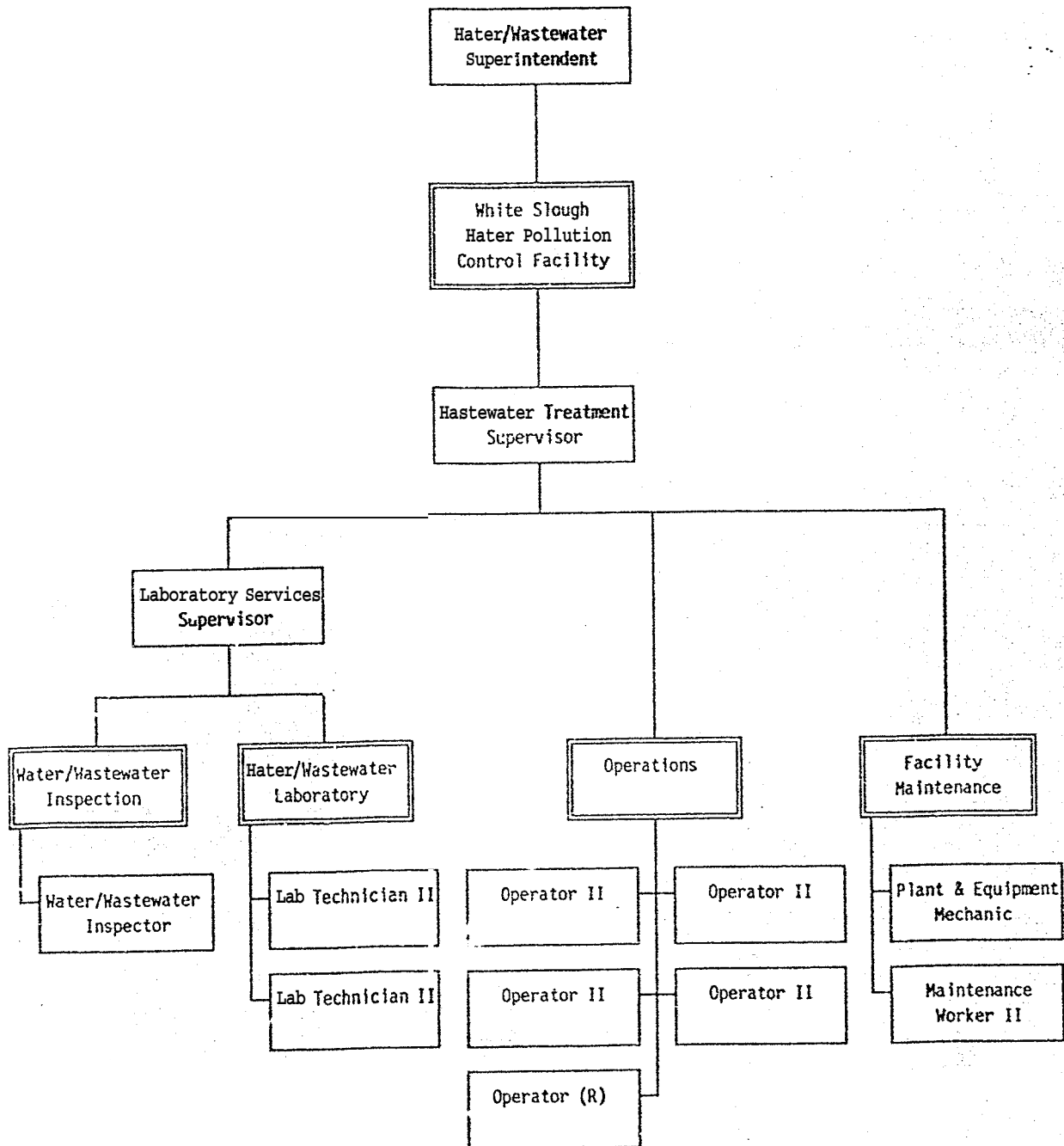
EXISTING PLANT STAFFING

The current treatment plant organizational structure is shown on Figure I. The plant has a staff of 12 people. The staffing requirements as computed by the EPA guidelines are shown in Table 2. The requirements dictated by the guidelines (at 1,500 man-hours per person per year) approximately equal the current staff.

TABLE 2. STAFFING REQUIREMENTS - EXISTING PLANT

	<u>Man-Hours per Year</u>	<u>Staff Required per EPA Guidelines</u>	<u>Current Staff</u>	<u>Recommended Staff 1988</u>
Supervisory	1,750	1.2	1	1
Clerical	490	0.3	0	0
Operations	7,460	5.0	5	5
Maintenance	4,800	3.2	2	3
Laboratory/Inspection	<u>3,150</u>	<u>2.1</u>	<u>4</u>	<u>4</u>
Totals	17,650	11.8	12	13

Figure 1
Existing Organization Chart



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April 8, 1988
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However, as pointed out previously, the guidelines tend to underestimate laboratory staffing requirements and the need for an inspector. In addition, the Lodi laboratory staff also performs water system analyses and the inspector also performs water system duties. These factors are reflected in the recommended staffing.

Currently, operations and maintenance staff have one supervisory person, five operators, and two maintenance workers.

It is recommended that a new position of chief operator be created to assist the wastewater treatment supervisor. This position would be an upgrade and selected from among five operators and would be responsible for supervising and coordinating activities of plant operations and maintenance, preparing work schedules and reports, and conducting safety and training programs.

Also, as pointed out in Table 2, it is recommended that an additional maintenance worker be added to the plant staff to assist the plant and equipment mechanic in performing preventative maintenance and repair tasks on the existing plant equipment and machinery.

The recommended existing plant organization chart, Figure 2, reflects the added personnel.

EXPANDED PLANT STAFFING

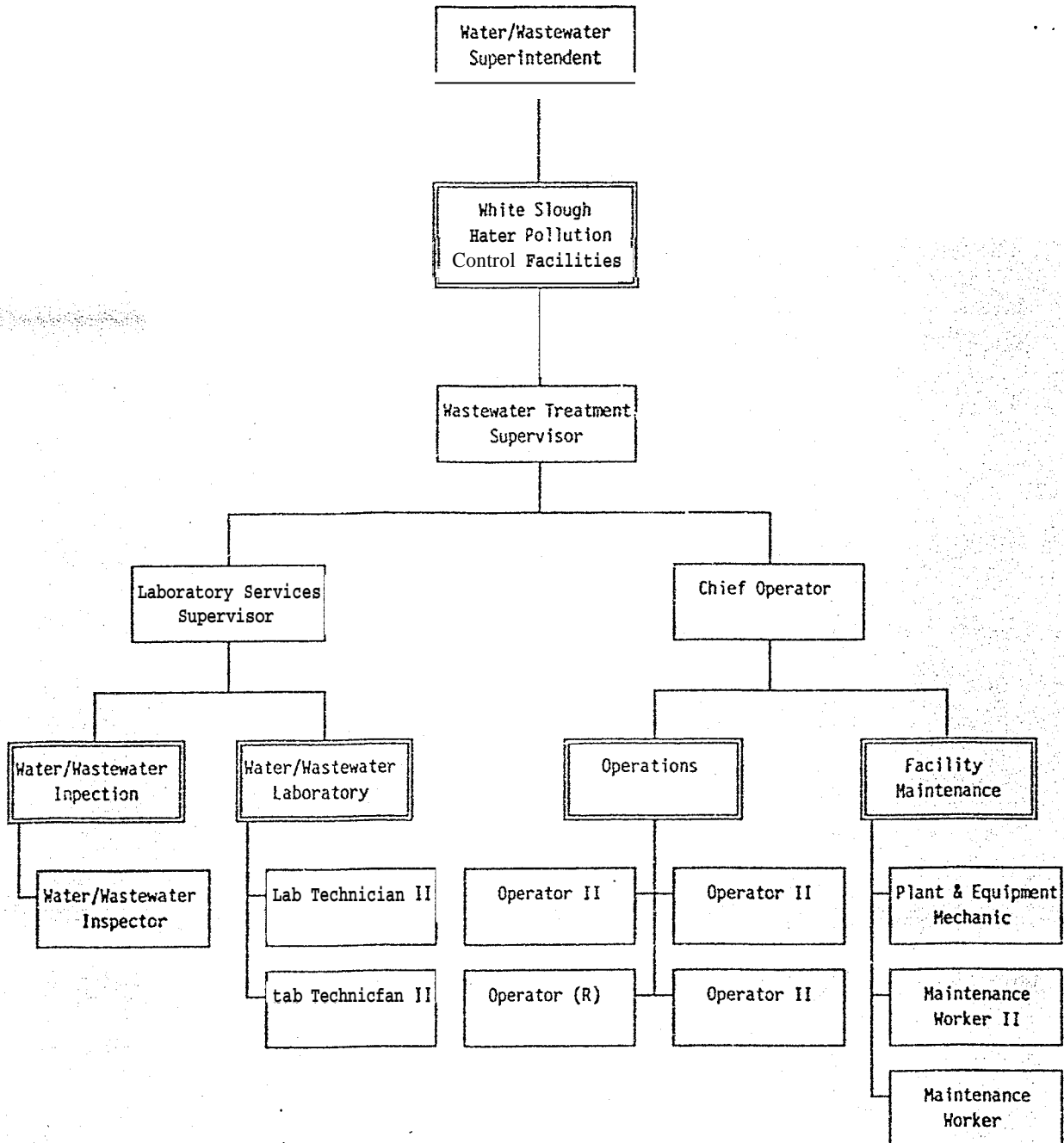
As the new facilities are brought on-line, it will be necessary to increase the plant staff to manage the new and expanded facilities. Again utilizing the EPA guidelines, the staffing requirements for the expanded plant are shown in Table 3.

It is recommended that after the expanded plant has started up in Spring 1991, a clerical/word processor position be created at the plant. This person would assist both the wastewater treatment supervisor and laboratory services supervisor in report production and filing and also act as building receptionist.

Three additional operators will be required for operations. It is recommended that one operator be hired in the summer of 1989 and two additional operators in the spring-summer of 1990. This will enable the new operators to become familiar with daily operations before the plant goes on-line and to assist as construction inspectors.

After plant expansion is complete, two additional maintenance personnel should be added to assist the current work force, bringing the plant total to five. At this time one of the plant mechanics should be upgraded to a senior plant mechanic to supervise the maintenance staff. One of these

Figure 2
Existing Plant
Recommended Organization Chart



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B&V Project 13772.160
April 8, 1988
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TABLE 3. STAFFING REQUIREMENTS - EXPANDED PLANT

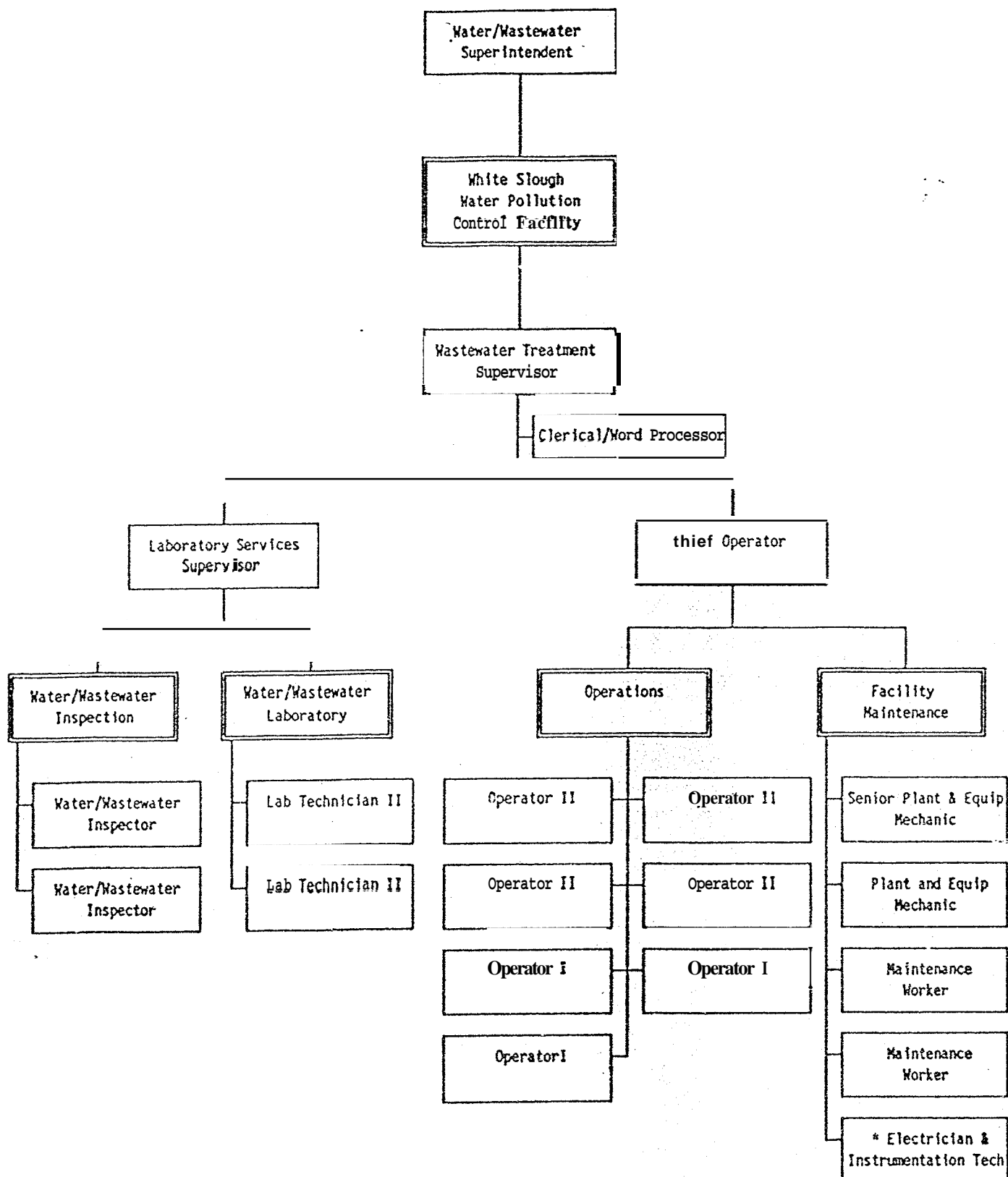
	Man-Hours per Year	Staff Required Guidelines per XPA	Recommended Staff
Supervisory	2,150	1.4	1
Clerical	700	0.5	1
Operations	11,750	7.8	8
Maintenance	7,200	4.8	5*
Laboratory/Inspection	3,590	2.4	5
Totals	25,390	16.9	20

*Includes an electrician/instrumentation technician who will be full-time support from the Utility Department.

new employees should be an electrician/instrumentation technician, who will function as support **staff** permanently assigned to the Utility Department.

The current laboratory services **staff** of **four** employees should be adequate until summer of 1990 when it is anticipated that another water/wastewater inspector will be required to assist in the pretreatment programs, backflow prevention, and other outside Inspection programs.

The expanded plant organization chart is shown in Figure 3.

Figure 3
Expanded Plant Organization Chart

BLACK & VEATCH
ENGINEERS-ARCHITECTS

TEL. (415) 944-5770

3470 BUSKIRK AVENUE
PLEASANT HILL, CALIFORNIA 94523

MAILING ADDRESS: P.O. BOX 4247
WALNUT CREEK, CALIFORNIA 94596

B&V Project 14915.300
B&V File B

November 23, 1988

City of Lodi
White Slough Water Pollution
Control Facility
Capacity Expansion Improvements

City of Lodi
221 West Pine Street
Lodi, CA 95241-1910

Attention: Jack Ronsko

Gentlemen:

During our recent site investigation to collect data on the existing facilities, we noted that the existing plant electrical power distribution and motor controls are aged and in need of housekeeping and regular preventive maintenance. From discussions with the City's electrical personnel, it is clear there is no scheduled maintenance and electrical items only get fixed when they are broken.

In view of the existing electrical system conditions, the new construction with the addition of new microprocessor controls, and possibly the inclusion of a plant-wide computer control scheme, we feel that it is imperative to have a full-time staff maintenance electrician at the plant.

We strongly recommend that you increase maintenance staffing at the White Slough plant by employing a full-time, permanent, maintenance electrician. In addition to any other requirements imposed by the City, the successful candidate should possess the following skills:

1. Be physically able to perform the assigned tasks.
2. Have a minimum of 5 years experience in low voltage (0-500 volts ac) motors, motor controls, power distribution and power generation.
3. Have experience maintaining and repairing microprocessor based instrumentation control systems.

Furthermore, we would recommend that this person be on staff as soon as possible to be familiar with the facility prior to the new construction. This new position will be of the greatest importance at that point in time

City of Lodi
Mr. Jack Ronsko

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B&V Project 14915.300
November 23, 1988

during construction when the 'plant's electrical system' is required to function with the 'contractor's equipment.' Put simply, the system must work or the contractor will claim delays.

In addition, we would recommend that any electrical power distribution equipment not changed during this expansion be systematically replaced in a planned upgrade under your capital improvements program. This work could be performed by your staff electrician.

We have also included a memoranda summarizing our recent site electrical investigation and the treatment plant staffing study. Both of these doc-Dents support our strong feelings about the need for additional electrical maintenance.

If you have questions or comments, please contact our office at 415-964-5770.

Very truly yours,

BLACK & VEATCH

Randy W. Fiorucci
Project Manager

JAK:mit

cc: Fran Forkas, City of Lodi, w/enc.
Del Kerlin, City of Lodi, w/enc
Max Burchett, Whitley, Burchett & Associates, Inc., w/enc.

RESOLUTION NO. 89-52

A RESOLUTION OF THE LODI CITY COUNCIL
APPROVING ADDITIONAL STAFF REQUIRED FOR
WHITE SLOUGH WATER POLLUTION CONTROL FACILITY EXPANSION

RESOLVED BY THE LODI CITY COUNCIL, that the City Council does hereby authorize the following additional position and hiring schedule needed for the operation of the White Slough Water Pollution Control Facility (WSWPCF) expansion project scheduled to be operational February 1991:

<u>Number</u>	<u>Position</u>	<u>Hiring Date</u>
1	Plant & Equipment Mechanic	May 1989

Dated: May 3, 1989

I hereby certify that Resolution No. 89-52 was passed and adopted by the City Council of the City of Lodi in a regular meeting held May 3, 1989 by the following vote:

Ayes: Council Members - Olson, Reid and Snider (Mayor)
Noes: Council Members - Hinchman
Absent: Council Members - Pinkerton


Alice M. Reimche
City Clerk